

Claims

What is Claimed is:

1. (Currently amended) A pulse-width modulated digital amplifier comprising:
a loop filter for producing a stable loop output signal E_w from an input digital signal E_i ,
the loop filter including an n th order integrator, n having an integer value greater than one,
the n th order integrator comprising a first integrator and m additional integrators, m having an integer value.
the first integrator having an absolute magnitude of gain that is greater than the sum of the absolute magnitudes of gains of the m additional integrators; and
a comparator for receiving loop output signal E_w and a pre-selected signal, the comparator generating a pulse-width modulated signal E_p from the pre-selected signal and signal E_w ,
the pre-selected signal comprising a sawtooth wave generated signal;
a switching output stage for receiving pulse-modulated signal E_p and generating an output signal E_o ;
and
a feedback loop for channeling a portion of the signal E_o to the loop filter input and combining with the input signal E_i .

Original Claim Set Listing:

1. (Original) A pulse-width modulated digital amplifier comprising:
 - a loop filter for producing a stable loop output signal E_w from an input digital signal E_i ,
 - the loop filter including an n th order integrator, n having a value greater than one,
 - the n th order integrator comprising a first integrator and m additional integrators,
 - the first integrator having an absolute magnitude of gain that is greater than the sum of the absolute magnitudes of gains of the m additional integrators; and
 - a comparator for receiving loop output signal E_w and a pre-selected signal, the comparator generating a pulse-width modulated signal E_p from the pre-selected signal and signal E_w ,
 - the pre-selected signal comprising a sawtooth wave generated signal;
 - a switching output stage for receiving pulse-modulated signal E_p and generating an output signal E_o ;
- and
- a feedback loop for channeling a portion of the signal E_o to the loop filter input and combining with the input signal E_i .